



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In Reply Refer To:

JUL 15 2009

To: Distribution List

Subject: Comments on Draft Oroville Habitat Expansion Agreement Documents,
FERC #2100

Dear HEA Steering Committee:

Thank you for the opportunity to comment on your June 10, 2009, *Habitat Expansion Agreement: Working Definitions of Evaluation, Selection, and Approval Criteria* (Working Definitions); June 13, 2009, *Approach for Applying the Habitat Expansion Agreement (HEA) Criteria to the List of Potential Actions* (Approach); July 6, 2009, *Working List of Potential Actions – 10 Factor Evaluation* (Working List); and July 6, 2009, *List of Removed Actions* (Removed Actions). Thank you also for providing the subject documents on your web site. The postings are easy to find and have made this review process much easier. It is clear that a lot of work went into the preparation of these documents. As you continue to work toward finalization of the documents, and potential screening and modeling revisions, we look forward to review of future drafts. We have reviewed each document separately, while considering the context and content of the HEA, and provided the following comments in the chronological order of the documents.

Comments on the Working Definitions:

The working definitions are quite descriptive and generally appear in line with the intent of the HEA criteria; however, we recommend that all of the working definitions be re-examined and made as quantitative as possible to increase their objectivity and utility. The working definitions apply to the three sets of criteria (i.e., 17 Evaluation, 4 Selection, and 6 Approval criteria) identified in the HEA. Specific comments below apply to Evaluation criteria "b, c, f, g, i, and l" and minor comments on one Selection and two Approval criteria.

- Evaluation criterion "b" (page 1): The definition of watershed/subwatershed should be clarified. Also "large enough" needs to be defined.
- Evaluation criterion "c" (page 2): The sustainability of an action for a period of 50 years needs to explicitly consider the effects of climate change on Central Valley spring-run Chinook salmon habitat.
- Evaluation criterion "f" (page 2): "Favorable spatial separation... to minimize interbreeding." This definition could be greatly improved by specifying that adult spring-

run Chinook salmon life history indicates that they spend the hot summer months holding in high elevation cool, deep pools. This temporal separation of adult spring and fall Chinook Salmon is key to their spatial separation. Low elevation stream reaches are an integral part of the migration corridor for both Chinook Salmon runs; fall Chinook Salmon will spawn in these reaches whereas spring Chinook Salmon will likely have already passed through the low elevation reaches before fall Chinook Salmon make it in from the ocean. We recommend that the advantage of flow enhancement be included as a factor that contributes to spatial separation.

- Evaluation criterion "i" (page 3): In general the definition of favorable local/political support is fine; however, we are concerned that without written documentation of the landowner/water right holder's agreement, then an implementation project could not go forward. Also, acquiring/increasing stakeholder support often occurs during outreach as the project implementation process moves forward. We recommend adding a statement "... that as a project moves through the environmental permitting/design process... that crucial support from legal owners would be attained...."
- Evaluation criterion "j" (page 4): Regarding stakeholder support, same comment as for criterion "i" above.
- Selection criterion "a" (page 5): We recommend a slight text modification: "spawning, rearing and/or adult holding habitat sufficient to support an additional 2,000 to 3,000 spring-run Chinook salmon."
- Approval criterion "b" (page 6): We recommend that you continue to work with the signatory agencies to assure that the habitat expansion threshold is met over the 50 years of the project and that wording to that effect is included under this criterion.
- Approval criterion "d" (page 6): In addition to creating a segregation barrier or enhancing habitat, add that increased flow would lead to spatial separation.

Comments on the Approach:

The Steering Committee's Approach to applying the HEA criteria to the list of proposed projects attempts to provide a simplified mechanism through the use of "filter sets" to move among the evaluation, selection, and approval criteria; however, the Approach lacks clarity, allowing for multiple interpretations and applications. There appear to be hidden steps in the Approach, or at the minimum, concepts intended to be applied that are not clearly articulated. One alternative approach would be to answer five simpler questions: (1) is the project biologically justified (does it address a limiting factor); (2) is it economically efficient; (3) is the proponent well qualified; (4) will the project move forward with support from key people, and (5) is the timing right for implementation? Once these questions have been positively answered, then it would be appropriate to move forward with the evaluation criteria.

In order to clarify the logic process being applied, we recommend a companion graphic, such as a decision tree or conceptual model, be used to demonstrate application of the Approach (e.g., an example decision tree is attached).

Additional specific comments follow:

- The move from using the 17 evaluation criteria to 10 significant factors is understandable, yet it seems as though some critical information was lost in the process. The rationales for conflation of the criteria should be documented (i.e., in which significant factor is each evaluation criterion represented and to what extent?). All 17 evaluation criteria need to be represented in some form.
- We recommend that you coordinate with National Marine Fisheries Service (NMFS) staff to determine which of the approval criteria are most important to them so that the "best" filter set (pages 3-5) can be determined or alternative filter sets can be proposed. Some key evaluation criteria could be applied singly as filters as well.
- Use of a filter that excludes the Northern Sierra Diversity Group (NSDG) in Filter Set A is problematic, because it would remove expansion into high-quality habitat from consideration. We recommend not using the NSDG as a filter.
- Regarding the anticipated numeric contribution in Filter Sets A, D, and E, it is important to remember that model input and design are critical factors in the usefulness of a model. Several models (e.g., CHARADE, UCM, RIPPLE, and EDT) have been suggested for assessing the likelihood of attaining the Habitat Expansion Threshold (HET). We recommend using a formal model selection process, with modeling needs, objectives, parameters, and outcomes clearly identified in advance of model selection (e.g., such as the process that was used in the San Joaquin River Restoration Program).
- Anticipated numeric contribution needs further clarification, especially in consideration of the estimation technique. Although models can provide useful numeric representation of the real world, they can under or over represent potential outcomes. Therefore, when selecting a model, we caution you against using models that could overestimate habitat and population responses. In addition, we recommend that you collaborate with NMFS, California Department of Fish and Game, and our office in selecting model types and in model calibration.
- Gravel permeability, cover, and adjacent flow should be specific habitat parameters in any selected model, without the use of surrogates for these parameters.
- When selecting a model to estimate habitat response, we recommend that the likely outcomes of global warming are considered in your habitat quantifications, and we suggest you utilize the information provided in Lindley et al (2007) to calibrate the temperature parameters in your model.

- The inclusion of stakeholder support, in filter set C, puts the power of decision-making into the hands of stakeholders without the communication, education, and negotiation that is typical of stakeholder involvement. We recommend that stakeholder involvement and support be addressed through active means, rather than as a project filter.
- Modifier 1 confuses measurability with feasibility and cost with timing. We recommend that low measurability be used as a filter, because contributions that are not measurable have debatable value. In addition, we recommend that cost be separated from timing.
- Highly valid and feasible projects may have short-term actions that can be accomplished within 5 years, but may also contain other components that take longer than 5 years to accomplish. We recommend that timing not be a consideration until a suite of projects is identified that meets the intent of the HEA and satisfies NMFS, at which point timing could be used as a consideration for scheduling implementation.

Comments on the Working List:

- The “measurability” and “contribution” designations are incorrect in many instances and unclear in others. (For example, Project NS-14 showed a HIGH HET contribution and a “yes” for segregation of spring and fall runs. Considering that the population of spring-run Chinook Salmon in Big Chico Creek is quite small, and fall-run Chinook Salmon would not be segregated because they do not exist in that reach of the stream, this is either a typo or the quantification methodology is in error.) We request that you provide us with rationale for each designation (in the form of metadata) in order for us to gain a clear understanding of your ranking system. Please provide this to us in an Excel file, for ease of access to the metadata.
- Habitat “expansion” projects appear to be disproportionately linked with “deal killers;” long “time to implement;” and are fewer in number than habitat “enhancement” projects on the negative side, but also are positively linked with segregation of the spring and fall runs and HET contribution on the plus side. We recommend identifying the best 1-2 habitat expansion projects to be retained for consideration of implementation, regardless of this selection criteria, as long the action is in addition to section 3.2 obligations.
- Consider eliminating projects proposed for Mill, Deer, and Butte Creeks as these will not establish a new population of spring-run Chinook salmon, which is a priority for NMFS.
- The NMFS biological opinion on the Central Valley and State Water Project Operations Criteria and Plan (OCAP) has taken several run segregation projects off of the table (pursuant to section 3.2 of the HEA). Projects that would segregate spring- and fall-run Chinook salmon are few in number. We recommend identifying at least 1-2 run segregation projects to be retained for consideration of implementation, regardless of this selection criterion, as long the action is in addition to section 3.2 obligations.

- B-1 and B-2 (page 9) received a "yes" on deal killer, but remain on the list. We request an explanation of why these actions are being retained on the Working List.

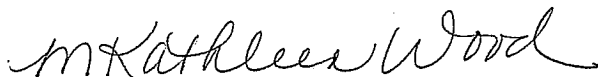
Comments on the Removed Actions:

We do not have any concerns with specific projects on this list; however, we are concerned that eliminating OCAP biological opinion alternatives reduces the number of significant projects that the HEA process could contribute to.

Conclusion

Reducing the list of actions under consideration can be a daunting task, and we recognize how important this step is in environmental decision-making. The need to balance the expected salmonid numbers with cost, in clear and thoughtful way, is paramount. As this process moves forward, we would like to be active collaborators, so that the signatories are all in complete agreement at the draft planning stage in November of this year. We look forward to continued involvement in this important process. If you have any questions regarding these comments, please contact Deborah Giglio-Willoughby or Alison Willy at (916) 414-6600.

Sincerely,



M. Kathleen Wood
Assistant Field Supervisor

Attachment

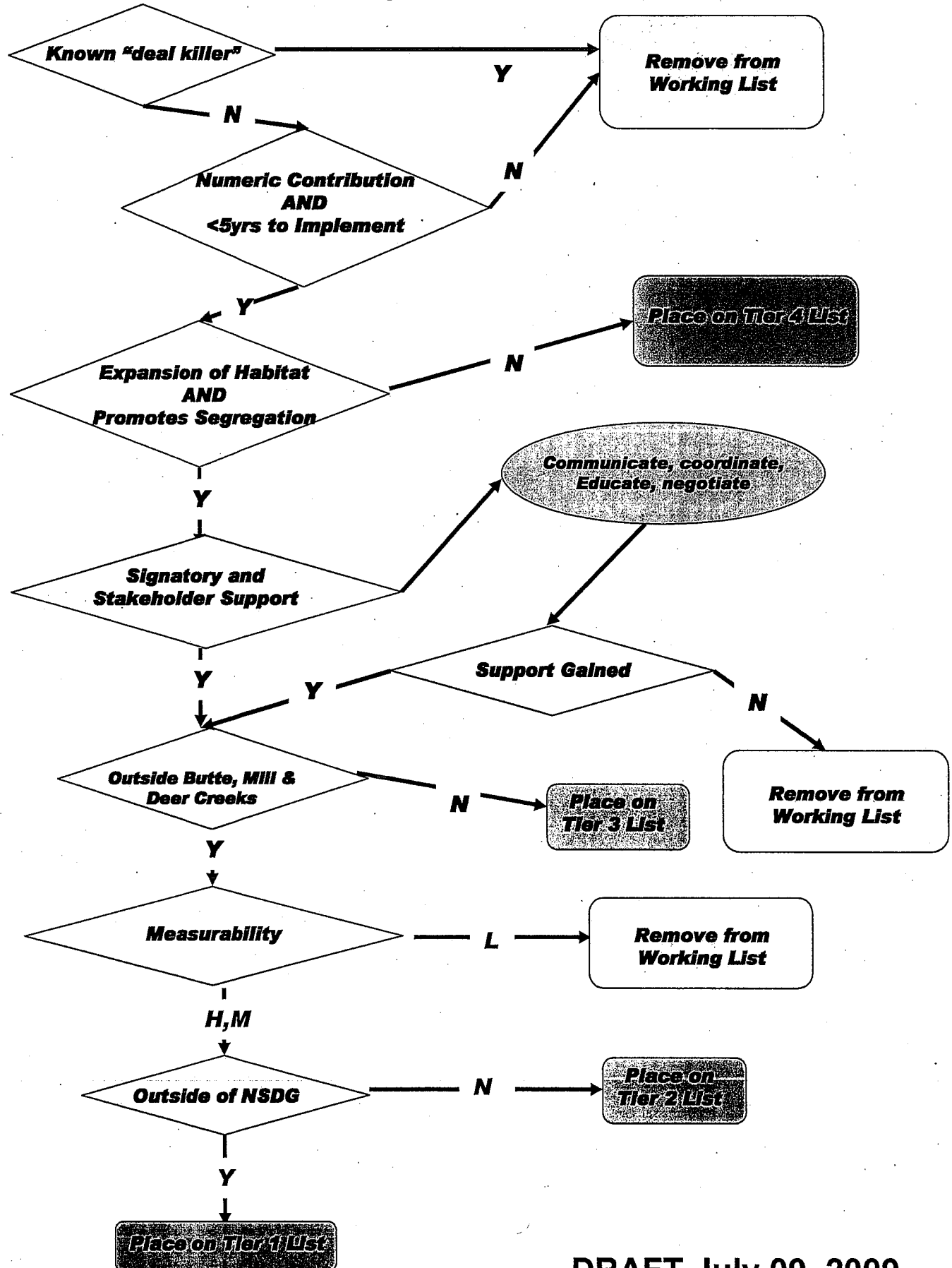
cc:

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Literature cited

Lindley, S. T., R. S. Schick, E. Mora, P. B. Adams, J. J. Anderson, S. Greene, C. Hanson, B. P. May, D. R. McEwan, R. B. MacFarlane, C. Swanson, J. G. Williams. 2007. Framework for assessing viability of threatened and endangered Chinook salmon and steelhead in the Sacramento-San Joaquin Basin. *San Francisco Estuary and Watershed Science* 5(1)(4):1-26.

Habitat Expansion Agreement—Example Decision Tree



DRAFT July 09, 2009